

Claims 1-3, 6-7 and 18 stand rejected under 35 U.S.C. Section 103(a) in view of the proposed combination of U.S. Patent 6,044,857 to Stege and U.S. Patent 3,205,323 to Deshautreaux Jr. Applicant respectfully traverses these rejections.

Stege does not show claim 1's requirement of "an external communication system operably connected to the controller and providing control signal input thereto; and a magnetically actuated sensor operatively connected to the controller and providing a first signal thereto in response to the movement or presence of a magnetic field". The Examiner refers to column 7, line 16-29 of Stege stating "a sensor connected to the controller that provides a first signal in response to a user's action (column 7, line 16-29 whereby a user could override the valve control circuitry using a jumper which is a type of switch)". The cited paragraph references a second jumper 96 allowing valve action to be reversed as well as a previously described jumper 94 allowing the user to select an input range to the microcontroller. In either case, neither jumper 94 nor jumper 96 is either a sensor or magnetically actuated. Moreover, neither jumper provides a first signal in response to the movement or presence of the magnetic field. Stege can be considered as a set of jumpers used to configure system configuration.

Applicant disagrees with the Examiner's position that Stege shows "an external communication system operably connected to the controller and providing control signal thereto (column 2, lines 19-27)". The cited portion of Stege clearly refers to the valve controller later described at column 4, lines 5-8 in more detail with regard to Figure 3 of Stege. The external communication system is required in claim 1 to be operably connected to the controller and providing control signal input thereto. The control circuitry operatively connected to the valve and controlling the position of the valve in response to the first condition does not meet the requirement of an external communications system operably connected to the controller and provide and control signal input. Moreover, applicant submits that if the Examiner is relying on the circuit board 22 to fulfill the claimed requirement of an external communication system, then the Examiner has

failed to identify "a controller operably connected to the actuator and providing control signals thereto". Applicant disagrees that Stege shows both a controller and an external communications system as described and required by claim 1.

For all of these reasons, the present invention is novel in view of Stege.

The Examiner asserts that it would have been obvious to use "a magnetically actuated sensor instead of a switch in the invention taught by Stege since a magnetic switch requires no physical contact with the material object".

Deshautreaux Jr. is a magnetic reed proximity switch which utilizes two pairs of unlike magnetic poles for creating magnetic switch used in actuating switch contacts (column 1, lines 8-10). The proximity switch senses objects of magnetic material brought into the sensing area (column 1, lines 45-46). When an object of magnetic material is brought into the vicinity of the switch sensing area, a change in the flux pattern within the switch causes the contacts to either open or close. (column 1, lines 30-33). Thus, Deshautreaux Jr. does not respond "to the movement or presence of a magnetic field" but rather to magnetic material brought into the switch sensing area.

Moreover, Deshautreaux Jr. does not show a flow control device, a valve, an actuator portion operably connected to and positioning the valve, a controller operably connected to the actuator and providing control signals thereto, an external communication system operably connected to the controller and providing control and signal input thereto and a magnetically actuated sensor operably connected to the controller and providing a first signal thereto in response to the movement or presence of the magnetic field. At best, Deshautreaux Jr. can be said to provide a switch which reacts to the introduction of magnetic material into a magnetic field. Deshautreaux Jr. does not show a sensor providing a signal in response to the presence of a magnetic field, rather responding to "magnetic material". Thus, the present invention is novel in view of Deshautreaux Jr.

Applicant submits that the combination of Stege and Deshautreaux Jr. not only fails to disclose the claimed invention but would not be made by a person of ordinary skill in the art since there is no reason to make the modification, since there are physical

limitations preventing the modification, since the proposed modification impairs the functionality of Stege, and since the proposed modification eliminates none of the present inventions claimed requirements. These submissions are explained in more detail in the following paragraphs.

The proposed combination of Stege and Deshautreaux Jr. does not show the present invention since it fails to show an external communication system operably connected to the controller and providing a control signal input thereto. The proposed combination also fails to show a magnetically actuated sensor operably connected to the controller and providing a first signal in response to the movement or presence of a magnetic field. Since neither Deshautreaux Jr. nor Stege discloses either an external communications system or a magnetically actuated sensor provides a first signal as claimed in claim 1, the claimed invention is novel in view of the proposed combination.

Neither Stege nor Deshautreaux Jr. provides any reason to modify the Stege circuit board 22 to delete a jumper and replace that jumper with a magnetic switch and then further modify the combination to include a magnetic sensor. In point of fact, it seems unlikely that a person of ordinary skill in the art would so modify the circuit board 22 of Stege absent some compelling reason to do so. That compelling reason has not been identified by the Examiner even though it is incumbent on the Examiner to identify such a reason in making the rejection under 35 U.S.C. Section 103.

Further with regard to that proposed combination, the proposed combination of Stege and Deshautreaux Jr. would require extensive modifications to Stege in order to fit the multi-pole reed switch of Deshautreaux Jr. into the limited space on the circuit board presently occupied by the jumper. The assembly is relatively large (column 4, lines 36-37) and mandates two pairs of unlike magnetic poles (see for example column 4, line 71-73). Such modification would not be taken without a good reason to do so. No such reason has been identified and a person of ordinary skill in the art would not make the proposed combination.

Furthermore, applicant submits that the simple substitution of the switch of Deshautreaux Jr. into Stege impairs or removes the function of Stege. Specifically, the jumper 94 is used to select an input range to the microcontroller such as a 0 to 10 volt range using

pin 2, a 0 to 5 volt range using pin 4, a 5 to 10 volt range using pin 6 and a 4 to 20 milleamp range using pin 8. Alternatively the jumper can be used to select a valve open connection using pin 10 or a valve closed connection using pin 12 (see column 7, lines 9-29). If the read switch of Deshautreaux Jr. were substituted in place of the jumper of Stege, the various input ranges and alternate use to select a valve open or closed connection could not be made. A person of ordinary skill in the art would recognize this and would realize that the proposed combination disables most of the potential functionality provided by the jumper. Moreover, Stege provides a static arrangement for system configuration. The arrangement proposed in Stege is a semi-permanent condition which cannot be changed without disassembling the valve and making a physical modification. Inasmuch as both Stege and Deshautreaux Jr. lack a magnetic sensor providing the claimed first signal, the combination still further lacks claim capability to provide a first signal in response to the improvement or presence of a magnetic field.

Additionally, a person of ordinary skill in the art would recognize that a sensor such as that of Deshautreaux Jr. could not be used in a flow control device as claimed since such devices are specifically placed in areas with considerable quantities of magnetic material which could lead to the generation of unintended signals.

Finally, applicant submits that the modification of Stege, assuming there was a reason that modification be made, through the addition of the switch of Deshautreaux Jr. in place of the jumper, eliminates any possibility of Stege having a claim requirement relative to "an external communication system" since the jumper of Stege also functions to select the input ranges to the microcontroller (see column 7, lines 9-15). Thus, the selection of the feature of column 7, lines 26-29 of Stege as proposed by the Examiner disables the potential features of Stege in column 7, lines 9-15. Stege can therefore never meet the claimed requirement of claim 1 without additional modification even if there was a reason to combine Stege and Deshautreaux Jr.

For all of the foregoing reasons, the rejection of claim 1 under 35 U.S.C. Section 103(a) is requested to be reconsidered and withdrawn.

The foregoing comments are relative to the remaining claims and should be considered in connection with the following comments, but these foregoing comments are not repeated for the sake of conciseness.

Applicant respectfully traverses the rejection of claim 2 in view of the proposed combination of Stege and Deshautreaux Jr. In addition to the foregoing discussion with regard to claim 1, the positioning of the jumper in Stege is equivalent of a DIP switch which configures a controller but which does not position in response to the jumper setting.

Applicant traverses the rejection of claim 3, as discussed above, on the basis that if the jumper is connected to pin 10 or pin 12, then the portion of Stege discussed at column 7, lines 10-15 is disabled, nonfunctioning, and not present. The traversal is further based on the position that the Examiner's interpretation of the jumper 94 is incorrect. That jumper can be in one position, and even assuming that one assumes the jumper as generating a signal (which the applicant disagrees can be assumed), that jumper cannot generate two signals nor can it transmit a second signal on a communication system in response to receiving the first signal look for the reason that the communication system is disabled by the jumper and the fact that the jumper overrides the valve control circuit 44. Therefore, the requirements of claim 3 cannot be met.

Applicant traverses the rejection of claim 4 in view of the proposed combination of Stege, Deshautreaux Jr. and U.S. Patent 4,217,647 to Sjoholm et al. on the basis that there is no reason provided in any of the references to make the proposed combination and on the basis that, even if the combination is made as proposed, the combination does not disclose the concept of transmitting a second signal when an identity is present.

Applicant traverses the rejection of claim 5 in view of the proposed combination of Stege, Deshautreaux Jr., Sjoholm and Mino both for the foregoing reasons and on the basis that the proposed combination of Deshautreaux Jr. and Mino is unworkable without extensive

modification somehow combining or integrating the sensor of Mino with the switch of Deshautreaux Jr. Since no reason is provided to make this extensive modification, applicant submits that the proposed combination cannot be made.

Applicant traverses the rejection of claim 6 under 35 U.S.C. Section 103 in view of the proposed combination of Stege, Deshautreaux Jr. The jumper of Stege, as discussed above, is a switch and not a sensor. The same is true for the reed switch of Deshautreaux Jr. Neither reference discloses or suggests a magnetically actuated sensor connected to the control circuitry for detecting a magnetic field. Moreover, neither reference discloses initiating a control mode sequence in the control circuitry upon the detection of a magnetic field. Essentially, applicant submits there is no reason in either reference to make the combination proposed by the Examiner and that if the combination were to be made, the combination still lacks the claim elements of a magnetic sensor and the use of a magnetic sensor to initiate a control mode sequence.

With regard to the rejection of claim 8 under 35 U.S.C. Section 103 in view of the proposed combination of Stege, Deshautreaux Jr. and Sjoholm et al., applicant traverses this rejection on the basis that the mere fact that three references exist does not provide a reason to combine them and no reason has been identified to make the proposed combination which would result in the claimed invention. The foregoing reasons with regard to claim 1 are also pertinent but are not reiterated for the sake of brevity.

Applicant traverses the rejection of claim 9 under 35 U.S.C. Section 103 on the basis that no reason has been provided to combine these three references to result in the claimed arrangement and on the basis that the combination does not disclose sending a first signal to communication circuitry in response to the initiation of a controlled mode sequence detected through a magnetic field. Essentially, even if the three references were put together in the manner proposed by the Examiner, the three references would still fail to meet the requirements of the claims with regard to how the components are interrelated and function.

The rejection of claim 10 under 35 U.S.C. Section 103 is traversed on the basis that the proposed combination cannot be made for the foregoing reasons and on the basis that, even if the proposed combination was made, the decision not to transmit a signal if the control circuitry determines that it has an identity is neither disclosed nor suggested.

Claim 18 specifies a controller operably connected to and controlling an actuator in response to a first condition, and a magnetically actuated sensor operably connected to the controller and providing a signal to the controller in response to sensing the presence or absence of a magnetic field wherein the controller initiates a predetermined control sequence in response to the sensed presence of the magnetic field. Applicant traverses the rejection of claim 18 under 35 U.S.C. in view of the proposed combination of Stege and Deshautreaux Jr.

As discussed above, neither reference discloses a magnetically actuated sensor, rather each reference disclosing a switch. Thus neither reference meets the requirement of a magnetically actuated sensor which senses the presence or absence of a magnetic field and provides a signal to the controller in response thereto. Furthermore, neither reference initiates a predetermined control sequence in the controller in response to the sensed presence of the magnetic field. Thus and for all the previously discussed reasons, claim 18 is submitted to be novel and patentable in view of Stege and Deshautreaux Jr. whether taken individually or in combination.

The rejection of claim 19 is traversed for the foregoing reasons and on the basis that a person of ordinary skill in the art would not attempt to combine the hall effect sensor of Mino with the reed switch of Deshautreaux Jr. without a reason to do so and no reason to do so has been identified.

Applicant traverses the rejection of claim 20 on the basis that the Examiner's statement "Deshautreaux discloses that the magnetically actuated sensor includes a magnetically moveable object" is inaccurate. Deshautreaux does not disclose a magnetically actuated sensor. By the Examiner's own statements on page 4 of this Office Action, "Deshautreaux teaches the use of magnetically proximity switches to simulate switch contacts using a magnetic filed".

Applicant also traverses the rejection of claim 21 on the same basis that claims 8 and 18 were traversed.

In summary, applicant submits that the references relied upon by the Examiner do not make the disclosures the Examiner alleges them to make, and the references do not include a reason in the reference to make the proposed combination. It is not sufficient to allege that its "obvious to one skilled in the art at the time the invention was made" to make the invention. There must be shown some reason to make the proposed combinations and to modify the proposed combinations to result in the claimed invention. The Examiner has failed to identify any reasons in the references and applicant submits that the Examiner has failed to meet its burden to show why the proposed combinations would be obvious as alleged by the Examiner. Consequently, applicant is requesting that the traversed rejections above be reconsidered and withdrawn.

Applicant has tried to fully address each issue raised above. Should the applicant have failed to completely address an issue, the Examiner is requested to contact applicant's representative at the number below.

Respectfully Submitted,



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